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10/009,760	01/13/2003	Tetsujiro Kondo	450101-03158	3056

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EXAMINER

DURNFORD GESZVAIN, DILLON

ART UNIT PAPER NUMBER

2622

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/009,760	<b>Applicant(s)</b> KONDO ET AL.	
	<b>Examiner</b> Dillon Durnford-Geszvain	<b>Art Unit</b> 2622	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 5-7, 11, 12, 17, 18 and 20-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8, 10, 13-16 and 19 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2622.

### ***Election/Restrictions***

2. Applicant's election with traverse of Species III in the reply filed on 4/6/2006 is acknowledged. The traversal is on the ground(s) that the Examiner did not identify different species of the invention. This is not found persuasive because figures 2 and 3 for example are clearly different species as they are alike except that they use different exposing means. In figure 2 the part labeled 2 is a digital micromirror device and in figure 3 the part labeled 2 is a liquid crystal panel. Moreover they are labeled in the drawings as being different embodiments. The other species cited in the previous Office Action are drawn to separate embodiments of either parts of the claimed image pickup apparatus or the entire apparatus.

As stated in the previous Office Action, claim 1 is generic.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims **5-7, 11, 12, 17, 18** and **20-38** are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 4/6/2006.

The Applicant elected claims **1-4, 8-10, 13, 14-16, 19, 20, 22-25, 28, 29, 31** and

**32.** However, the Examiner believes that claim **20** and all of the elected claims dependent from it do not read on the elected species III but instead read on species VI. In the specification and the drawings the Examiner cannot find support for a “selecting means” in connection with figure 5 or the controller 5. However, there is support for controller 33 having a selecting means (see page 31 line 4 of the instant specification).

Therefore, claims **20, 22-25, 28, 29, 31** and **32** will be withdrawn from consideration.

### ***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “2” has been used to designate both the DMD of figure 2 and the liquid crystal panel of figure 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

5. Claim 2 is objected to because of the following informalities: in line 2 "pixel value is value" should be --pixel value is a value-- and in line 4 "pixel value is not value" should be --pixel value is not a value--. Appropriate correction is required.

Several other claims are replete with similar grammatical problems.

### ***Claim Rejections - 35 USC § 101***

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 15 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 15 recites "[a] program for allowing a computer to carry out image pick-up processing ..." This is clearly a program *per se* and therefore is not statutory.

As it is not made clear in the claim that the program is encoded on a computer readable medium it is held to be a computer program *per se* and does not meet the statutory requirements set forth in 35 USC 101 (See Annex IV (pages 50-57) of the pdf document "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" on the website [http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101\\_20051026.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf) for guidelines as to what is and is not statutory).

Note that although claim 17 was not elected the Examiner believes it to be non-statutory as well as a data structure *per se*.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims **1-3, 13-16** and **19** are rejected under 35 U.S.C. 102(b) as being anticipated by 5,418,546 (Nakagakiuchi et al.).

As to claim **1**, Nakagakiuchi et al. teaches an image pick-up apparatus for picking up an image of object (see Fig. 13), the image pickup apparatus comprising: image pick-up means 39 (see Fig. 13) having a light receiving surface for receiving light from the object to carry out photo-electric conversion (this is inherent to CCDs), and adapted to output pixel value obtained as the result of the photo-electric conversion (this is also inherent); evaluating means 43 for evaluating the pixel value; and control means 45 for controlling, in pixel units (Column 14 lines 15-21), exposure time with respect to the light receiving surface on the basis of evaluation result by the evaluating means (Column 14 lines 15-21).

Claim **14** is a method that corresponds to the apparatus of claim **1** and is therefore rejected on the same grounds as claim **1** but drawn to a method instead of an apparatus.

Claims **15** and **16** are programs that correspond to the apparatus of claim **1** and are therefore rejected on the same grounds as claim **1** but drawn to a program instead of an apparatus.

As to claim **2**, see the rejection of claim **1** and note that Nakagakiuchi et al. further teaches the image pick-up apparatus as set forth in claim **1**, wherein the evaluating means evaluates whether or not the pixel value is value within a predetermined range (Fig. 18 and Column 13 lines 56-60); and wherein when the pixel value is not value within the predetermined range, the control means controls exposure time with respect to pixel of the light receiving surface corresponding to that pixel value so that the pixel value is caused to be value within the predetermined range (Column 14 lines 15-21).

As to claim **3**, see the rejection of claim **2** and note that Nakagakiuchi et al. further teaches the image pick-up apparatus as set forth in claim **2**, wherein the control means is operative so that when the pixel value is a predetermined value or more, it shortens exposure time with respect to pixel of the light receiving surface corresponding to that pixel value (Column 14 lines 3-21).

As to claim **13**, see the rejection of claim **1** and note that Nakagakiuchi et al. further teaches the image pick-up apparatus as set forth in claim **1**, which further comprises memory means 355 (see Fig. 19) for storing plural pixel values that the image pick-up means outputs and exposure times of pixels corresponding to the respective pixel values in such a manner to correspond to each other (Column 14 lines 3-14).

As to claim **19**, Nakagakiuchi et al. teaches an image pick-up control apparatus (see Fig. 17) for controlling an image pick-up section (39 with 36, see Fig. 13) having a light receiving surface for receiving light from object and adapted to output pixel value obtained as the result of the photo-electric conversion, the image pick-up control apparatus comprising: an evaluating section 43 for evaluating the pixel value (Column 13 lines 56-60); and control means for outputting, to the image pick-up section, a control signal for controlling, in a predetermined surface unit, exposure time with respect to the light receiving surface on the basis of evaluation result by the evaluating section (Column 14 lines 15-21).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim **4** is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,418,546 (Nakagakiuchi et al.).

The Examiner believes that claim **4** could be interpreted in multiple ways. First, the pixels are all evaluated as a group to determine the average luminance of the pixels and if this average luminance is less than a predetermined value the exposure time is elongated for all pixels. Secondly, the pixels are evaluated individually and if the



individual luminance is less than a predetermined value the exposure time for only that pixel is elongated.

In the first case, Nakagakiuchi et al. further teaches that if the value output by an adder is less than a predetermined amount the exposure time of the imager is elongated relative to a "normal" exposure time (Column 14 lines 22-27). This would be a 102(b) rejection.

In the alternative case, Nakagakiuchi et al. teaches evaluating the pixel luminance individually and if the luminance is too high shortening the exposure time (Column 14 lines 3-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have also elongated the exposure time of individual pixels if the luminance of that pixel is low as this would improve the dynamic range of the image pick-up apparatus.

11. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,418,546 (Nakagakiuchi et al.) in view of US 5,517,242 (Yamada et al.).

As to claim 8, see the rejection of claim 1 and note that what Nakagakiuchi et al. does not teach is correcting means for correcting the pixel value based on the exposure time of the pixel. However, Yamada et al. teaches correcting means 3 (see Fig. 1) for correcting pixel values that the image pickup means 1 outputs on the basis of exposure time of the pixels (Column 7 lines 47-67).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the correcting means of Yamada et al. in the

image pick-up apparatus of Nakagakiuchi et al. as this would increase the dynamic range (Column 8 lines 13-15 of Yamada et al.).

As to claim **10**, see the rejection of claim **8** and note that Yamada et al. teaches displaying the corrected image (Column 8 lines 35-37).

### ***Allowable Subject Matter***

12. Claim **9** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: the cited prior art does not anticipate nor render obvious the claimed limitation of the precise equation (involving  $1/S_{\text{BASE}}$  and  $1/S$  where  $1/S_{\text{BASE}}$  corresponds to the longest exposure time and  $1/S$  corresponds to an exposure time and the pixel value is multiplied by  $S/S_{\text{BASE}}$ ) used by the Applicant for correcting the pixel value data.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon Durnford-Geszvain whose telephone number is (571) 272-2829. The examiner can normally be reached on Monday through Friday 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dillon Durnford-Geszvain

5/11/2006

  
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SUPERVISORY PATENT EXAMINER